DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

04587653 SUPPLIER NUMBER: 08185976 (THIS IS THE FULL TEXT)
The World Bank's open network. (using Systems Network Architecture protocols in a multivendor computer environment)

Steyer, H. Clement, Jr.

Datamation, v36, n4, p109(3)

Feb 15, 1990

ISSN: 1062-8363 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2278 LINE COUNT: 00188

ABSTRACT: The World Bank has created a multivendor computer network in which DEC VAXs, an IBM 3090 400E and a Unisys A17 work together to process financial, portfolio management, office automation and loan administration systems. The network uses common networking protocols and a custom version of the X.400 message-handling system. DEC and Unisys provide communications products supporting SNA and LU 6.2 protocols, so SNA was used as the network foundation (to be replaced by OSI protocols when they become available). Two SNA-based interconnection services were developed to connect the three primary computer environments: file transfer services using SNA Network Job Entry protocols, and application-to-application messaging services using custom software based on X.400 and LU 6.2 peer-to-peer protocols. Differences between the three environments and messaging systems developed are described.

## TEXT:

The World Bank's Open Network

For years, the World Bank has been connecting the industrialized countries with developing nations in need of financing. So it might not seem remarkable that it recently got equipment from a trio of world-class computer companies talking to one another.

But these aren't just any three. These are the big three (in the United States at any rate)--IBM, Digital Equipment Corp. and Unisys Corp. And, like some of the bank's financing activities, this get-together promises to be a lasting one for the bank's financial systems.

The world Bank is tying together the financial and portfolio management systems currently on IBM equipment, with Digital Equipment-based treasury and office automation systems and loan administration systems running on Unisys A-Series hardware. Using common networking protocols and a specially crafted implementation of the internationally accepted X.400 message-handling system (MHS), the bank has achieved a working version of open networking.

From the beginning, the bank has been working toward using the Open Systems Interconnection (OSI) protocols to connect its systems. OSI protocols may be the lingua franca of computer communications—much as the gold standard was to international currency exchange. Yet, unfortunately, OSI is moving too slowly to accommodate the bank's interconnection needs. The bank had connected the financial systems on the three computers before complete OSI products were available from the vendors.

Unusual Methods

The World Bank has adopted some unusual methods for implementing the new networking scheme. Since Digital and Unisys each provide communications products that support IBM's Systems Network Architecture (SNA) and Logical Unit (LU) 6.2 protocols, the bank is using SNA as the network foundation—at least until all three vendors implement equivalent OSI protocols. X.400, an OSI—endorsed message store—and—forward specification, provides the same basic ability to communicate among applications.

To achieve its goal, the bank developed two SNA-based interconnection services spanning the three primary computer environments: first, file transfer services using SNA Network Job Entry (NJE) protocols and, second, application-to-application messaging services using internally written software based on the X.400 messaging protocol and LU 6.2 peer-to-peer protocol.

Both of these services rely on an SNA backbone networks interconnecting the three environments. The connections are made through specialized communications processors—a 3725 for the IBM 3090, an SNA gateway—ST for the Digital VAXs and a CP2000 for the Unisys A17. SNA protocols are supported by each vendor.

With the help of a pair of third-party communications products, the bank implements Network Job Entry on the non-IBM hosts. Joseph and Cogan Associates Inc., a Thousand Oaks, Calif.-based Unisys subsidiary, provides NJE on the Al7 mainframe and Madison, Wis.-based Joiner Associates Inc.'s Jnet implements NJE on the VAX. A number of problems had to be overcome to get NJE to be a functioning file transfer facility.

Hosts of Differences

Since the bank's 3090 400E is running both the VM and MVS operating systems, the SNA network has four logical nodes to accommodate all three vendors' differing directory, security and file naming conventions. Many of the problems in getting NJE running were attributable to the multiple operating systems and the variety of NJE products. Such problems included differences in directory file-naming conventions, security mechanisms and node type emulations employed by the host environments.

The Digital environment presented its own special issues. The bank has multiple VAXs connected by a DECnet backbone network but uses a single VAX 6310 to supply the SNA and NJE interconnection services to all DECnet nodes. The bank's IS staff was able to link all the DECnet nodes through the single processor. For example, they wrote an exit routine for Jnet that handles file naming for files received from the MVS and the Unisys A17 nodes and delivers the files to the ultimate user account on the DECnet node. They also wrote a program to invoke Jnet on the VAX 6310 from remote DECnet nodes and remotely access the file to be transferred.

The staff created sample jobstreams—such as Job Control Language (JCL), EXEC, Digital Command Language (DCL) and Workflow Language (WFL)—for each environment. The jobstreams show users how to send and retrieve files from other sNA nodes. The Is staff also produced detailed documentation that provides, in one small manual, all the information a programmer or user needs to transfer files among the computers.

Messaging Systems

Message handling proved another stumbling block, as no truly interoperable X.400 products were available for the bank's three environments. Not to be stymied, the IS staff wrote its own message handling system (MHS) software based on the X.400 architectural model.

World Bank transactions are typically of low volume (less than 5,000 per day) and high value (\$100 million or greater are common). To meet these business requirements, the bank added special features to guarantee message delivery, to ensure resolution of any duplicate messages and to provide an electronic signature and message authentication capability. The MHS uses LU 6.2 protocols to transfer messages between the three computer environments. Displaying some foresight, the staff designed the system to be easily migrated to OSI protocols when such products become available.

Message data are conveyed by assigning a short name, called a "tag," to each data element and then forming a field in the message by combining the tag with the actual data value (separated by a colon). The whole data field is then enclosed in curly braces. A data field within a message would look like this: [tag:data]

Furthermore, a data field can be either elementary or compound, and a compound can be composed of both elementary and other compound elements, for example: [tag1:[tag2:data][tag3:data]]

The highest level compound is a message definition; fields within a message may be made mandatory or optional in the definition.

The definition of data elements, fields and messages are stored centrally in a master reference file. From these definitions, software generates two products that are used to build and interpret messages: a submission template and a construction template. Submission templates are fixed format record definitions that contain all fields for a message, with space for the maximum allowable size for each field. Construction templates are interpretation rules that provide the information needed to

convert the fixed data format of the submission template into the freeformat version (suppressing unused optional fields and unneeded zeros),
which is actually transmitted and received. The construction rules are also
used to parse free- format messages that are received back into the
fixed format of submission templates so that a receiving application can
easily operate on the data received.

In order to relieve the individual application systems from the chores of constructing and parsing messages, the staff developed callable/shareable code, so that each computer could do these tasks. This component of the MHS, called the Application Interface or AIF, also executes the electronic signature and autentication tasks for each application.

Message Security

One of the bank's concerns in developing its distributed financial systems was security. Now, for security purposes, an electronic signature is appended to every message. This signature confirms that the message did in fact come from the purported sender, thus preventing undetected penetration of the bank's MHS network or alteration of messages.

The signature feature uses a private-public key pair encryption scheme based on a Shamir knapsack encryption algorithm. An application's private key is known only to the application itself, while the paired public key value is freely distributed to all potential receiving applications. The sending application provides the called application interface with its private key as a parameter. The AIF then checksums the constructed message and encrypts the checksum result using the private key, the application's public key and the encryption algorithm. The result is an electronic signature that is appended to the message as the authentication trailer.

The receiving application AIF decodes the electronic signature using the sender's public key and the decryption algorithm. It then re-checksums the received message and compares the result with the value of the decrypted signature. If the comparison is identical, the message is authenticated.

Modeled After X.400

The MHS architecture follows the concepts of the X.400 model. The significant features of this architecture are:

- \* Database interface: The interface between an application and the MHS is through the application's database. The interface enables the application to commit its functional actions and any resulting message actions simultaneously, thus ensuring synchronization between an application transaction and any associated message.
- \* Each application's user agent (UA) interfaces to the application's database from a standard UA developed for each environment. Each application has its own UA, its own unique name and a set of dialogue tables that contains control information about applications with which it communicates.
- \* Message transfer agents: Each message transfer agent (MTA) has a database that stores messages or forwards them to another MTA or to one of the user agents in its environment. Each MTA has a complete set of routing tables for all applications the system supports.
- \* Automatic routing: An application need only know the name of the destination application. The MHS handles all routing, even if the destination is in the same environment.
- \* Layered architecture: The MHS is implemented as a set of layers with specific interfaces between layers and logical protocols that connect each with its companion layer across environments.

Although the interfaces between layers are similar across computer environments, they differ in their technical details. These details accommodate differences in task-to-task interprocess communication (IPC) services provided by each of the four operating systems. The IPC serves as the interface between an application and the AIF. The interface between the AIF and the application's UA is a data interface through the application's database. The other layer interfaces in an environment are IPC interfaces.

This architecture allows applications to run independently of the MHS

and of each other. An application does not have to be running for its UA to receive messages; only the application's database must run. This also permits an application to be either interactive or batch.

The true functionality of the MHS is implemented by the logical protocol links that are in place between corresponding layers. At the application layer, the protocols specify the purpose of each standard message type, an application's response when receiving and processing particular message types, the business conditions that cause a particular message to be sent to another application, the business event references that are exchanged between applications and the ways to handle exception conditions.

At the AIF layer, the MHS protocols provide for checking the versions of standard message formats and upward compatibility of revised message formats.

The features of guaranteed delivery and duplicate message resolution are implemented in the user agent layer protocols. These protocols provide for unique message identification, positive acknowledgment by a UA to a received message, retransmission of messages that have not been acknowledged based on an exponential time scale [retransmit time = [2.sup.\*\*] (transmit count) minutes], and the discarding of messages that have already been received and acknowledged. Separate checksumming of the UA header and the message body are employed to provide data integrity.

The message transfer agent (MTA) protocols implement complete message routing and store-and-forward functions for all applications within the MTA's environment.

Master of the Gateway

The gateway agents (GWA) are implemented as paired message senders and receivers, with senders acting as masters and receivers as slaves. The protocol between a master sender GWA and its paired slave receiver GWA is standardized, using LU 6.2 mapped conversations with confirm synchronization.

Since the VM/XA operating system does not yet support LU 6.2 protocols in a usable way (as does VM/SP), the links between VM/XA MTA and the other environments are made via NJE file transfer of batched messages. Fortunately, because the bank's VM applications do not currently have a time-critical need for message transfer, the organization can live with a batched interface until IBM provides LU 6.2 support in VM/XA.

The World Bank's interconnection services have been in initial production since June 1989. Five applications currently use the message-handing system for production work, and four more will use it early this year. Standard IBM tools such as NetView network management are used to manage the SNA interconnections. The times for the complete transfer of a message, including the database overheads at both the MTA and UA, average about 3 seconds, with an average message length of about 500 bytes. The management of the service is not a significant operational problem. The design implementation of the MHS has proven to be robust and has met its design goals: no messages lost, no messages duplicated, no undetected message corruption and reasonable message transit times.

H. Clement Steyer Jr. is a systems adviser at the World Bank who managed the message-handling system project and serves as integrator for the bank's decentralized financial systems.

CAPTIONS: How the World Bank configured a multivendor network. (chart) COPYRIGHT 1990 Cahners Publishing Associates LP

SPECIAL FEATURES: illustration; chart; photograph
INDUSTRY CODES/NAMES: CMPT Computers and Office Automation
DESCRIPTORS: World Bank--Data processing; Connectivity--Usage; Systems
Network Architecture--Usage; Banking industry--Data processing
SIC CODES: 6000 DEPOSITORY INSTITUTIONS; 3571 Electronic computers;
9611 Admin. of general economic programs
OPERATING PLATFORM: SNA
FILE SEGMENT: CD File 275

26/K/1 (Item 1 from file: 15) DIALOG(R) File 15:ABI/Inform(R)

(c) 2004 ProQuest Info&Learning. All rts. reserv.

00911489 95-60881

Modeling the forms of international cooperation: Distribution versus information

Morrow, James D

International Organization v48n3 PP: 387-423 Summer 1994

ISSN: 0020-8183 JRNL CODE: PIOR

WORD COUNT: 16424

...TEXT: requires both a forum for the exchange of messages and a shared interpretation of those messages .

In the model , the equilibria of the game provide a set of descriptions of stable behavior under a successful form of cooperation. (6) An equilibrium specifies what messages the players send to one another about the game, how they interpret those messages, and what actions they...prohibitive for most extra-European traffic. Billing by the word would reduce the cost of sending short messages , and so encourage additional extra-European traffic. Many European states objected to reducing the unit...

- ... the additional traffic generated enough revenue to cover both the loss of revenue on shorter messages and the cost of the added traffic. But that result was not obvious in 1875. Fourth, actors frequently have divergent preferences... to the reports the players exchange as "messages" and formalize them as message 1 and message 2. Actors send messages after they have received their signals but before choosing their moue for that round. The exchange of messages corresponds...
- ... The following section presents the equilibria of the model. These equilibria give stable arrangements for sending and understanding messages and selecting moves based on those messages . Neither player has an incentive to defect from an equilibrium once both understand they are...
- ... equilibrium, a "babbling equilibrium," lacks any effective regime. In a babbling equilibrium, each player always sends the same regardless of the signal it has received. The actors adopt equivalent actions and receive equal... expects the other player also to play that move. Neither player has any preference over sending one message over another because the outcome on which they coordinate depends upon both players' messages.

## The...

- ... type of equilibrium, a "communicative equilibrium," the players' messages correspond to the signals they have received . (36) Such messages , however, create an incentive for the players to dissemble. An actor can benefit sometimes by sending the message that it has received a favorable signal when in fact it has received an unfavorable signal. Players receiving messages discount them based on the possibility that the sender is lying about its signal. How...
- ...honest communicative equilibrium" exists. Both players accurately report the signals they receive. If both players send message 1, then they both play move A. If both players send message 2, they play B. If one message 1 and the other message 2, they follow the player **sends** procedure used in the pure coordination...
- ... interpretation of the honest communicative equilibrium. Actors who receive unfavorable signals would prefer lying to sending an honest message if they believe the interpretation of the honest communicative equilibrium is in effect. When each actor expects the other to send a

dishonest message , a "dishonest communicative equilibrium" is possible. The actors discount one another's messages of favorable...

- ... communicative equilibria. One interpretation that does so directs the actors to play A if both send message 1, to play B if both send message 2, to use the pure coordination equilibrium if player 1 sends message 2 and player 2 sends message 1, and to play the babbling equilibrium if player 1 sends message 1 and player 2 sends message 2. This equilibrium rewards both players with successful coordination when they both send honest messages of unfavorable signals. Both sides protect themselves against the possibility of dishonest messages by playing the babbling equilibrium when they both send messages of favorable signals. Playing the dishonest communicative equilibrium entails a chance that the players will...
- $\dots$  probability of identical interest (p). The lower p is, the greater the players' incentive to send dishonest messages when unfavorable signals are received. Dishonest communicative equilibria are less likely to produce coordination ashowever, always send honest messages , and the probability of a dishonest message rises with a. The probability of coordination under...
- ... communicative equilibrium. In some cases, no communicative equilibrium is possible. Players receiving unfavorable signals always send dishonest messages in these cases, and the players find themselves in a babbling equilibrium. When players send the same message no matter what signals they have received, messages lose their ability to communicate information. Under these circumstances, the pure coordination equilibrium produces a...
- ... players are treated identically. In the fourth type of equilibrium, a "leadership equilibrium," the players send their messages sequentially, giving them different roles. One player sends a message about its signal; the second player then tells the first which move it (the second...
- ...latter player as the leader and the former as the follower. The follower always "babbles"-- sends the same message regardless of the signal received--and so the leader cannot learn anything about the follower's private information from its message. The follower can never gain by sending a message that it has seen an unfavorable signal. If the leader has received a favorable signal...moves are analogous to norms within a regime. Strategies are complete plans for playing the model; they specify particular messages and moves for specific situations and histories of the model. Like norms, the players' cognizance... at this stage is self-enforcing.
- At the message stage of the game, both players send each message with a probability of 1/2, making each other indifferent between sending either of the messages . If one player sends a message with a probability greater than 1/2, the other can increase its payoff by sending the corresponding message (the matching message for player 1, the other message for player 2). Then the strategy...
- ... received and the combination of the messages determines on which equilibrium players coordinate. If both send message 1 (or 2), they both play A (or B, respectively). If the messages do not...
- ... playing moves, this equilibrium is self-enforcing. I determine the conditions under which the players send honest messages .
- Both players report favorable signals accurately. The question of honesty lies with players receiving unfavorable signals. Let "player 1 sends message 1" be abbreviated as 1s1. Player 1's expected utility for sending each type of message, given that it has received a signal of 2,

thus is calculated:

u sub 1...

 $\dots$  so only the signaling stage is checked. If r is the probability that player 2 **sends message** 2 when it **receives** signal 1, the expected values for player 1 of **sending messages** of 1 and 2 if signal 2 is received can then be calculated:

u sub...

... on showing first, which move the leader will announce and second, why the follower always sends the same message regardless of what signal it has received. Assume for convenience that player 1 is the...and when p > 1/2, player 1 prefers B.

To see that player 2 always sends the same message, note that player 1 announces move A if it receives signal 1 regardless of player...

... 2 always prefers move B regardless of which signal it has received. Player 2 always sends the same message regardless of which signal it has received.

# FOOTNOTES

- 1. For discussions of the interaction between... A later section discusses choosing among different possible equilibria.
- 38. There are other ways to send messages sequentially that have the same effect. For example, the first player's message indicates what...

#### 26/K/2 (Item 2 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2004 ProQuest Info&Learning. All rts. reserv.

00777126 94-26518

# Making the most of messaging

Marshall, Patrick

InfoWorld v15n42 PP: 76-100 Oct 18, 1993

ISSN: 0199-6649 JRNL CODE: IFW

WORD COUNT: 17088

... TEXT: to construct rules from scratch. And there are six predesigned forms to choose from when sending a message .

The optional forms creation package (\$995) is another of BeyondMail's strengths. This powerful add...

...spell-checking of messages.

As before, Da Vinci offers a strong set of tools for sending and managing messages and even includes a generous array of 28 message forms of various types, although it...application is, compared with the competition, decidedly low end. Team is capable of the basic messaging tasks-- sending carbon copies, requiring receipts, and creating personal address books and user groups. However, it has...

... utility for searching for messages, and the only way to save a draft of message is to send it to yourself. There is also no rules utility included.

The main reason to consider...in configuring the Windows client software. Whenever we tried loading the E-mail module, we received error messages indicating that the program couldn't find certain files. Eventually, we discovered that the root... users individually or as groups, specifying

whether they have the ability to delete, read, and send messages, whether they can send mail to external post offices, and whether they can send "Priority 5," or urgent, messages . If you're adding a number of users who are already on the network, you will probably want to...will suggest spellings if requested. The program lacks a thesaurus, though.

The program lets you  $\ensuremath{\mathbf{send}}$  a  $\ensuremath{\mathbf{message}}$  directly from the composing screen or save it as a draft for later editing. And...

...32KB limit. To attach files, including any type of binary file, click on the Attach icon , and select the file from the directory box.

BeyondMail does not include any file viewers, which means...carbon copies is just as simple: Click on the CC: or BC: button in the message header and select from the user directory.

Next, to set a priority alert, we clicked on the Options...

... the memo, to send a receipt when the message is opened, and to encrypt the message .

Replying to a received message is simply a matter of clicking on the Reply icon in the toolbar. A new...

...the program so that the original message is not included in replies.)

Unfortunately, once you send a message, there is only an undocumented way to pull it back if the recipient has not...

- $\dots$  messages is simple, and up to 20 such attachments can be made to a single **message** . And you can now **select** multiple files to attach at once--the previous version limited you to attaching only a...priority of the message: normal, low, or urgent. Specifying urgent, for example, results in the message receiving a hard-to-miss red "urgent" label. Urgent messages also receive first priority when messages are sent to other post offices and gateways. CC:Mail was not able to perform...
- ... of the message commands --including those for keeping a copy, setting a priority for the message, sending a receipt when read, and encrypting the message--can be accessed either through pull-down...
- ... Vinci does allow you to save memos as drafts for later editing. And you select any Windows font for messages , though only for printing purposes. You can't format your message with a variety of...
- ... message, all you have to do is click on the Attachment button in the Create Message form, then select the file to be attached. And the program provides built-in viewers for many of...
- ...a user--a procedure that requires a third-party gateway.
- Da Vinci offers a generous **selection** of 28 **message** forms, including forms designed for phone messages, expense reports, and the like. Unfortunately, you can...for example, save drafts of messages. Instead, the work-around suggested by Futurus is to send the message to yourself, edit it later and then forward it to the real recipient. Even more...
- ...written was unusually simple, thanks mostly to the lack of print options provided. When you select Print with a message open or highlighted it will be printed directly with the program's default settings. You...
- ...is accomplished very easily by clicking on the toggle bars at the bottom

of the message creation screen.

carbon and blind copies of the message is also simple. The only curiosity here is...

... creating data fields, and you can't do any formatting to speak of, but these " templates " can structure simple message documents.

MICROSOFT MAIL: Microsoft Mail is quite powerful in messaging capabilities, but that power does...

- ... the program does this in a rather unintuitive fashion. You must try to close the message without sending it, and Mail will ask whether you want to save it. If you say yes...
- ... messages sent, and you can even configure Mail to automatically perform a spelling check when **sending** messages -- a nifty touch.
- It's easy to import text from an outside file directly into a message by selecting Edit/Insert from the File menu or, if you prefer, you can simply cut and... then tried to pull back the message we just sent. Mail does not allow the sender to pull back messages (unopened or opened) directly. However, the administrator can retrieve a message if it has not
- ... any spreadsheet or database files. Nor does WinMail allow you to insert OLE objects into messages .

WinMail allows you to **select** from both public and private address books in sending mail. Users can create mailing lists...

... offering a very efficient spelling checker and a thesaurus.

If you don't want to send the message you're working on right away, you can save it as a draft for later...

... not retain the columnar alignments. When we tried to view the attached Excel file, we received a message telling us no viewer was available. Office provides viewers for only a handful of file...carbon copy address options, as well.

Office offers quite strong control over how it handles sending messages . You can set the message delivery priority and have Office display in your Sent box...

- ... handling messages. Each type is triggered by a different event, such as loading the program, receiving a new message, moving a file, the arrival of a preset day or time, a Dynamic Data Exchange...
- ... simplified rules utilities, including notification of any message arriving from a specified individual and automatically sending replies to messages delivered while we were "out of the office." The only obstacle we encountered while creating to, copy to, delete, mark as read, print, reply to sender using message, forward current message, send draft message, confirm, alert, beep, and flash window.

The program made short work of accomplishing each of...

... need them. The automated reply feature lets you create rules that refer to a boilerplate message , using an extensive selection of Boolean operators.

CC: Mail does not offer "message threads" per se, although if a...

...of tools to search messages. First, you can pop up quick search boxes to

messages by sender, subject, or date. If those options don't do search the job, you can select "Other...

... the strongest search utility in the business, but it is interesting and easy to use. Select File/ Message Finder and you'll be offered a box with fields for the sender of the message, the subject, the recipients, and the message text. Unlike some programs, Mail does not allow...browser window. If you open the browser, it will display the contents of the currently selected message in a window just below the folder window. The browser window offers a smooth and...

... WinMail was not able to perform our test tasks of automatically sending boilerplate replies to senders of incoming messages . Nor could WinMail be configured to automatically forward messages to other users.

Because WinMail relies...

...you specify the type of item--E-mail message, schedule item, note, task, message . You can also select from a sublist of miscellaneous characteristics, such as a private message, a message with attachments... your designated proxy--usually your secretary--can even schedule your appointments, receive notification when you receive a new message, and send E-mail responses m your name.

Office does not offer any sort of message threading...

... support message-base encryption (it will in the next release). Users can, however, still encrypt selected messages before sending them. Viewing encrypted messages requires a password to open the message.

BeyondMail provides utilities for rebuilding message databases and...

...that unauthorized users cannot read messages not meant for them.

The program also makes archiving messages an easy operation. Just select Archive under New in the File dialog and enter a path and file name to... there is no password protection for the iconized program.

Second, the program does not encrypt messages until they are received in a user's mailbox, which means that there is a potential security risk while ...

...the specified date using the Purge command in the administration module. The administrator can purge messages either from selected users' mailboxes or from those of all users.

The Fix Mailbox utility in the administration...

... does not provide any encryption, either for the message base as a whole or for selected messages .

For related reasons, Futurus Team does not provide tools for recompacting the message base. Each... routers or other software to operate in a multiple-server environment. But you'll need add -ins to design message handling rules, create custom forms, and view attachments.

WINMAIL: Powercore generally provides a simple set...

(Item 3 from file: 15) DIALOG(R)File 15:ABI/Inform(R) (c) 2004 ProQuest Info&Learning. All rts. reserv.

00747520 93-96741

Internet Privacy Enhanced Mail

Kent, Stephen T

Communications of the ACM v36n8 PP: 48-60 Aug 1993

ISSN: 0001-0782 JRNL CODE: ACM

WORD COUNT: 9143

...TEXT: the case of a forwarded message, this service reliability identifies the forwarder, not the original sender, of the message .) This service counters a serious deficiency in current email systems, where it is often quite easy to forge the identity of the **sender** of a **message**. The recipient of forged message might be misled into taking inappropriate actions or might wrongly attribute libelous comments.

The connectionless integrity service provides the recipient with assurance received message content is identical to the content sent by the originator. This service protects against attacks...

- ... The service is deemed "connectionless" because it does not attempt to impose any ordering among received messages . Although authentication and integrity services are described here as independent, they are usually provided in...
- ... incoming messages. If a user switches off his computer overnight, on weekends or holidays, this model would be violated and a message originator might receive an error indication from the MTA. Hence desktop computer users often maintain mailboxes on server...q., mailbox addresses), is required to control PEM processing. If the (optional) confidentiality service is selected by the message originator, these recipient identifiers are used to control message encipherment.
- In Internet email, the header...being transformed in a fashion that would invalidate the integrity and authenticity checks. An ENCRYPTED message adds the confidentiality service to integrity and authenticity. This message type also uses the encoding transformation...
- $\dots$  contains the data needed by each recipient to verify the integrity and authenticity of a received message (and to decrypt a confidential message). Data generated during the second and third transformation steps ... as is applied to the message content).

# ENCRYPTION

The second PEM processing step also provides message encryption, if selected by the originator. This processing is performed only if the PEM header specifies a Proc... of the recipient's distinguished name, rather than a mailbox name, permits a recipient to receive email on multiple computers with different local account and mailbox names, while retaining a single cryptographically...

(Item 1 from file: 16) DIALOG(R) File 16: Gale Group PROMT(R) (c) 2004 The Gale Group. All rts. reserv.

07043351 Supplier Number: 57621454 (USE FORMAT 7 FOR FULLTEXT)

AUTOMATIC E-MAIL DISTRIBUTORS: TURNING INFO@ABCORP.COM INTO SALES@ABCORP.COM.

GRIGONIS, RICHARD

Computer Telephony, v6, n11, p139

Nov, 1998

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 9949

addresses such as info@yourcompany.com and support@yourcompany.com. Agents can quickly reply to messages by inserting a suggested

response, selecting a message from the centralized Standard Response Library (SRL), choosing a message from a personal list of...data based, reports can be easily generated from the database.

With iWeb, blending inbound and outbound e-mail messages is a standard supported feature. The agent simply launches outbound messages by a mouse click and the details of how the message is formatted and transmitted...slash message processing costs by up to 80%. It further raises productivity with suggested reply templates for manually answered messages .

The Brightware Answer Agent works as an autonomous agent within the Brightware Server that continuously...

...fields as in @Once Enterprise. They just click on a button, send a question, and receive an instant message from a CSR within minutes or seconds.

Once volume builds you can add @Once Enterprise...has been over a given period.

Reporting functions can answer such questions as: How many messages did you receive in March? How quickly were they answered? How quickly is your new employee responding to on the subject, content or sender of the message . Response rules can easily be customized using the simple Web interface. Complex rules are written...

...distribution list. Data from customer inquiries is used to identify the most appropriate people to **send** targeted **messages** . **Messages** can contain any data in the database such as customer name or subject of latest customer inquiry. Outbound messages alert customers of upgrades, promotions, reported bugs and other important announcements.

All system services are...able to view the `thread' of e-mails that led up to it, including the messages received from the customer and the replies from different staff members.

For the server you should...

...MB memory minimum and 200 MB of hard disk space, depending on the amount of messages received per day.

The package will work with Microsoft Exchange Server 4, 5 or 5.5...A typical tracking number looks like this when it's first assigned to an incoming message: SPT1997010800000011

IMC adds a unique message ID to the tracking number for each additional message associated with the original message. ... mail discussion with user while keeping track of every message that has been sent and received .

The Internet Message Center works with Microsoft Exchange, Microsoft Outlook, Lotus Notes, cc:MAIL, Eudora mail and all...

...voice over IP, and more.

IMC doesn't replace your existing e-mail software. IMC receives , manages and distributes messages addressed to specific message pools. IMC works with any e-mail server capable of sending ... 19981101

26/K/5 (Item 2 from file: 16) DIALOG(R) File 16: Gale Group PROMT(R) (c) 2004 The Gale Group. All rts. reserv.

06704836 Supplier Number: 56068753 (USE FORMAT 7 FOR FULLTEXT) Microsoft Outlook Express. (Product Support) (Tutorial) PC/Computing, p182

Nov, 1999

Language: English Record Type: Fulltext

Article Type: Tutorial

Document Type: Magazine/Journal; General Trade

Word Count: 586

in-box or a newsgroup, click on the View menu, point to Current View, and select Group Messages by Conversation. Now you'll see your messages organized in thread order.

Look Smart Just because most of the messages you send are electronic doesn't mean they can't have the customized look of paper-based

...additional stationery files, it will be automatically added to your Apply Stationery menu. If you receive a message that has attractive stationery you want to use, click on File, Save as Stationery. This...

...then on Show Replies to My Messages from the cascading menu.

Keyboard Shortcuts

Alt-S Send message .

Ctrl-I Switch to Inbox folder.

Ctrl-K Check names.

Ctrl-M Send and receive mail.

Ctrl-N Create a new message .

Ctrl-Q Mark selected message as read.

Ctrl-R Reply to just the sender.

Ctrl-Shift-B Open Address Book...

...jazzing up a message, but to truly create your own look-and save time-use templates. Even add a blind carbon copy address so that every message based on the template will get cc'd to a specific address. In the message window, click on File... 19991101

#### 26/K/6 (Item 1 from file: 148)

DIALOG(R) File 148: Gale Group Trade & Industry DB (c)2004 The Gale Group. All rts. reserv.

10212444 SUPPLIER NUMBER: 20559596 (USE FORMAT 7 OR 9 FOR FULL TEXT) DMS products. (Defense Message System administrative agency e-mail software) (includes related list of remote software, Q&A for DMS buyers, DMS case study with 3rd Army Corps) (Buyers Guide)

Lais, Sami

Government Computer News, v17, n12, p49(5)

May 4, 1998

DOCUMENT TYPE: Buyers Guide ISSN: 0738-4300 LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 4822 LINE COUNT: 00462

low-level messages. It also will accommodate group are to more closely resemble a commercial model .

Under the FLA, X.400 messaging and IP messaging will run over he same Defense Information Systems Network.

DOD will he...

# ...core function.

A messaging system comprises three functional areas: a user agent, which creates, and sends and receives messages to and from the message store; a message transfer agent, which stores and forwards messages ...is some of what DM5 does that users don't see when they create and send a message:

- \* Smith types a message and clicks on a button to go to the X.500...
- ...there, the DSA widens the search to other DSAs in the X.500 directory.
- \* To send a message , Smith must assign it one of six precedence values that reflect its urgency: routine, priority...
- ...MEK with Smith's private key, Johnson's public key and a random number.

The message Smith sends is actually the encrypted MEK, random number and the encrypted text of the message.

Johnson...

...send button.

A DMS groupware server, formerly called a subordinate MTA, at Smith's command sends the message to the next tier in DMS, a primary groupware server, ...on the groupware server at Johnson's command and from which he'll retrieve the message .

\* When Smith selects Johnson's name from the X.500 directory, he may be aware of whether that...

...or non-DMS, but he need not act on the information.

If he were to send a DMS message over AUTODIN, the message would be automatically routed to a multifunction interpreter (MFI), which would

...have a list of individuals to whom he regularly sends information. When he wants to send a message to them, he drag and drops the list name to the send to box and...software used to modify information in the directory. A DM5 Mail List Agent will be added to send organizational messages to groups of recipients.

"It all grew from an old Simple Mail Transfer Protocol gateway...

#### 19980504

26/K/7 (Item 2 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

06802435 SUPPLIER NUMBER: 15041286 (USE FORMAT 7 OR 9 FOR FULL TEXT) LAN e-mail packages. (local area network) (PC User NSTL Lab Test) (Software Review) (includes related articles on National Testing Software Laboratories' testing facilities and the recommended packages) (Evaluation)

PC User, n224, p116(14)

Dec 1, 1993

DOCUMENT TYPE: Evaluation ISSN: 0263-5720 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 7978 LINE COUNT: 00660

database units and security control.

The front-end, or client side, simply submits requests for sending and **receiving messages**. Clients can query the message database for message servers act as mail dispatchers between users...

...provides a mail system interface to the message database engine, and provides the facility for sending and retrieving mail messages . It also provides a message editor for creating new messages. Most mail system vendors offer...

...from the home post office, offline message creation and addressing, the ability to download only selected files and message headers, and batch file transfers. In terms of usability and setup, all the tested products present very straightforward modem selection , setup, dialing and message

sending options, with the exception of WordPerfect Remote Office, which has a somewhat complex architecture, requiring...members of public mailing lists can share the contents of a group folder. Users can add to, delete from and copy messages between folders.

WordPerfect Office places folders on ...with multiple post offices. Performance

Performance scores aggregate an e-mail system's speed for sending messages to single users and to mailing lists over the local network and across modem connections...

...less notably in the network tests. This is primarily because of its poor performance when sending messages with large attachments to sizeable distribution lists on a NetWare fileserver; the program sends copies...

...are easy to learn in all the programs. Most Windows users should have little trouble sending and reading messages . Learning advanced features such as message sorting or specialised folders requires the documentation or online...

...user clicks on a menu item. Some features are not so obvious, such as creating templates, rearranging messages and deciphering message icons. Microsoft Mail has an icon bar with descriptive text, but small 'envelope' icons next... The DOS versions of most packages require roughly twice as many keystrokes to initiate and send a message as their Windows counterparts. With the exception of QuickMail, all the programs' Windows versions feature...

...windows can be tiled or cascaded. The template feature lets users save a frequently used message as a template for future use. Testers were unable to find a way to customise the icon bar...

...and mail sent from the workstation's screen.

Each test measured the time required to send the message (with any attachments) from the workstation to the post office database and associated directory areas...again (the point at which the LED turned off).

Performance tests

\* On-LAN tests

A. Send message with attachment to a single user and a distribution list

Each mail system sends a 1Kb text message with a 500Kb attachment from a workstation to the local mail database. Testers measure the... ...returns at the workstation (if a large file attachment takes an appreciably long time during message preparation, that time is also added to the actual message send time).

Testers send the message to a single recipient and then distribute the message to lists of 10 and 100...

...file from the designated area on the server disk to a temporary holding area) is added to the message transmission time.

Similarly, QuickMail's Macintosh client performance suffers because the program makes multiple copies...

...and four without), dials into the post office via an asynchronous message router, uploads the messages and receives 1Kb text messages of 1Kb each (no attachments) queued in its in-box at the post office. The...

...each, dials into the post office via an asynchronous message router, uploads its queue of messages and receives text messages of 1Kb each (no attachments) queued in the remote's in-box at the post...

...2,400bps modem connections because of significant line costs. Such links should be used to send and receive messages with small size attachments only.

The test results in the DOS/Windows remote programs reveal...

...14,400bps with error correction and compression enabled.

E. File storage efficiency test

NSTL technicians send an empty message with a 500Kb attachment file to a 10-user distribution list at the post

26/K/8 (Item 3 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

SUPPLIER NUMBER: 11751580 05761105 (USE FORMAT 7 OR 9 FOR FULL TEXT) Microsoft Corp.: Microsoft Mail 3.0 for AppleTalk Networks. (Software Review) ( one of four evaluations of electronic mail systems in 'QuickMail Stands Above Crowd; Mac-to-PC E-Mail Package Boasts Ease of Use, Flexibility') (Evaluation)

Bethoney, Herb

PC Week, v9, n3, p61(1)

Jan 20, 1992

DOCUMENT TYPE: Evaluation ISSN: 0740-1604 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 405 LINE COUNT: 00033

... ABSTRACT: the Mail Tools utility. Microsoft Mail 3.0 has a very intuitive design; users can send messages by clicking icons. Microsoft Mail for AppleTalk 3.0 ships with a Gateway Installer function... Microsoft Mail 3.0. Its main window uses several icons that users click on to send messages, graphics and enclosures, or to send an inquiry to the mail administrator. Messages can be...

...at the bottom of the window let users quickly reply, forward, print, move and delete messages that have been received .

The program lets clients choose among several message forms or templates . The mail administrator can add customized forms as necessary. A Note message can contain as much as 32K bytes of text and enclosed files. Microsoft Mail also permits a user to record a sound message and send it to another user on the network.

The package includes a Gateway Installer that lets...

...the gateway is installed, a gateway icon is included in the Address window of a Send message, and clients can select a special addressing screen to send mail to the external service.

Microsoft's Word and...

# 19920120

26/K/9 (Item 1 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

02124516 SUPPLIER NUMBER: 19913536 (USE FORMAT 7 OR 9 FOR FULL TEXT) Get the message. (Microsoft's Message Queue Server and IBM's MQSeries network software) (Application Architect) (Product Information) Linthicum, David S.

DBMS, v10, n12, p24(3)

Nov, 1997

ISSN: 1041-5173 LANGUAGE: English RECORD TYPE: Fulltext; Abstract WORD COUNT: 2791 LINE COUNT: 00227

for a retail organization a few years back. The client used the MOM API to send messages to an IBM mainframe, a Unix-based database server, and a TP monitor, all at...

...transaction processing features.

There are two basic types of MOM: process-to-process messages and message queuing. The process-to-process model needs both the sending and receiving process to be active in order to exchange messages...

...lacks the asynchronous features that add to the value of using the MOM. The queuing model stores messages in a queue, so only one process needs to be active. (See Figure 1, page...the update to fail.

Message routing services give your client/server application the ability to send messages to their destination using least-cost routing The administrator only needs to define the cost...

...unreliable networks, such as an enterprise WAN or the Internet.

MSMQ notification services inform the **sender** that the **message** was received and processed. They also handle messages that time out, which gives developers the chance to...

...the journaling subsystem maintains copies of messages moving through the system. Developers are able to select messages and queues for the journal. The idea is to allow developers to recover from failures...

...queue handle. The handle allows MSMQ to identify the destination queues to the MSMQ server sending the message .

Next, you create a message by allocating local memory and adding information to the message . Here is where you have an option to add parameters, such as timeout values, names...

...variety of platforms.

MQSeries products provide you with a single, multiplatform API. Thus, you can **send** a **message** from your Windows 95 Workstation and route that message through Unix, VMS, or even a...

### 19971100

26/K/10 (Item 2 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

02059627 SUPPLIER NUMBER: 19344838 (USE FORMAT 7 OR 9 FOR FULL TEXT) Behind the IMAP rap. (four Internet Message Access Protocol 4 servers reviewed) (includes related article on Editors' Choice) (Software Review) (Evaluation)

Boyle, Padraic

PC Magazine, v16, n10, pNE1(7)

May 27, 1997

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 4559 LINE COUNT: 00357

issue).

By definition, POP3 is a store-and-forward messaging system. A POP3 mail server sends a client its messages and doesn't keep a copy on the server. IMAP4, on the other hand, is...

...local hard disks for reading and creating messages. The user connects to the server to **send** and **receive messages** . Off-line mode is often used by road warriors who rarely stay in one place...

...as IMAP4 does.

Disconnected mode offers the most flexibility. The client software copies, or caches, messages and attachments selected by the user to a local disk and leaves the original copy on the mail...

...product functionality using Sun and TeamWare mail clients.

During our tests, we simulated sending and receiving small and large messages; some messages included file attachments. We also tested each server's ability to work in...based data-encryption scheme, has become the de facto industry standard; it allows users to add digital signatures to messages sent across the Internet. These digitized messages are encrypted from end to end. The drawback...remote location.

Creating users in Team-Ware Intranet Mail was a breeze. The administrator uses templates --which are great for adding large numbers of users to the mail server--to create users with similar attributes. For

...server. A handy housekeeping feature of TeamWare Intranet Mail is the administrator's ability to send messages to all users during their log-ons. For example, you can let your users know...doesn't offer a foolproof client yet.

1 The IMAP4 standard follows a client/server model . The mail messages sit on the mail server until your users decide to download the mail messages and...

...messages are deleted from the server. From any IMAP4 client, users can view their mail messages by sender, subject, and size. Then, they can then fetch the individual messages they want as well...

### 19970527

26/K/11 (Item 3 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01805385 (USE FORMAT 7 OR 9 FOR FULL TEXT) SUPPLIER NUMBER: 17180694 Programming Windows 95 with MFC, part III: processing mouse input. (Tutorial)

Prosise, Jeff

Microsoft Systems Journal, v10, n8, p57(15)

August, 1995

DOCUMENT TYPE: Tutorial ISSN: 0889-9932 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 9324 LINE COUNT: 00819

... ABSTRACT: Windows also provides a unique feature that allows an application to capture the mouse and receive mouse messages regardless of the cursor position. A mouse-capturing application, called MouseCap, illustrates this capability. Windows...

the appropriate application message queue. The message is then retrieved and dispatched just like other messages .

This input model differs from that of Windows R| 3.1, which stores mouse and keyboard messages in...

...message queue; in a multithreaded Win32 R|-based app, each thread that retrieves and dispatches messages receives a private input queue. The benefit of allocating each app (and possibly each thread within...

...a window's client area with the messages listed in Figure 1. Of course, the messages your app receives depend on the mouse that's installed. Your application won't receive WM...are directed to the window that performed the capture. This ensures that a button-up message will be received no matter where the cursor is when the button is released. Mouse capturing will be...MOUSEMOVE messages to drag a group- selection rectangle when the mouse is moved with the left mouse button held down. However these...MOUSEMOVE messages , Windows does not send a message for every pixel that the cursor crosses over unless the hardware is capable of keeping...a window contains child windows such as push buttons or scroll bars, it will not receive mouse messages when the mouse is clicked (or the cursor moved) over a child window. Following the...

...scroll bar without processing any mouse messages itself. Clicking a window's vertical scroll bar sends a mouse message to the scroll bar's window procedure, and the scroll bar in turn sends a...

...represented by a CRect.

ILLUSTRATION OMITTED| TABULAR DATA OMITTED

The first step in processing mouse messages is adding entries for the messages you are interested in to the message map. The declaration for TicTac's CMain-Window...immediate attention to avoid debilitating effects such as the corruption of disk data.

You can add an artistic touch to your message boxes using MB...in the form of the global AfxMessageBox function. The two are very similar, but AfxMessageBox adds the capability to link the message box to a program's online help facility. AfxMessageBox is irreplaceable when a severe error...DBLCLKS class style so the window will receive double-click messages . CS...nonclient-area mouse events.

Before a window receives any client-area or nonclient-area mouse message, it receives a WM...

...the receipt of a button-down message doesn't necessarily mean your application will also receive a button-up message . Suppose you've written a paint program that saves the point parameter passed to an...

... solution to this problem by allowing an application to capture the mouse and continue to receive mouse messages no matter where the cursor is positioned on the screen. The mouse is captured with...importance of capturing the mouse when tracking mouse movements in an application that counts on receiving a button-up message for each button-down message. Still, the program suffers from one rather serious flaw. Because... MOUSEMOVE message is received .

```
CMainWindow::CMainWindow ()
    Create (NULL, "My Application");
    ::SetClassLong (m...
```

# 19950800

```
26/K/12
             (Item 4 from file: 275)
DIALOG(R) File 275: Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.
```

SUPPLIER NUMBER: 16057690 (USE FORMAT 7 OR 9 FOR FULL TEXT) SoftBench Message Connector: customizing software development tool interactions. (Tutorial) (Technical)

Courant, Joseph J.

Hewlett-Packard Journal, v45, n3, p34(6)

June, 1994

DOCUMENT TYPE: Technical ISSN: 0018-1153 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

LINE COUNT: 00300 WORD COUNT: 3858

care what tools will be connected, as long as those tools have a SoftBench Framework message interface. The message interface is added by using the SoftBench Encapsulator, (3) which allows users to attach messages to the functions...

...have become components of a user task.

[CHART OMITTED]

Message Connector Architecture

The architecture of Message Connector follows the component model of use encouraged by Message Connector. As shown ... As designed and implemented, a large portion of the routine manager's user interface simply sends a message to the SoftBench Framework requesting that a service be performed. As an example, the Enable and Disable command buttons simply send a message requesting that the routine engine enable or disable the selected routine. The routine manager was...

...routine engine must be very fast. It stores, deciphers, matches, and substitutes portions of framework messages, it receives and responds to a rapid succession of a large number of trigger messages, and it...

...status of the request.

A separate routine editor is started for each routine edit request received by the message server. When the routine manager sends a request to the message server to edit a...For most tools, the catalog file is provided for the user by the person who added the message interface. If the catalog file does not exist for a particular tool, it can be...

...the abstraction displayed or to hide some of the seldom used functions.

When the user selects a tool from the Message Connector routine editor tool list, the routine editor goes out and parses the tool's...

...that matches the routine engine's message connection. If the message server forwards a matching **message**, the routine engine **sends** a request for each of the THEN: statements to the message server.

Development Process Message...

### 19940600

26/K/13 (Item 5 from file: 275)
DIALOG(R) File 275: Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01679328 SUPPLIER NUMBER: 15313308 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Multimedia mail: new multimedia messaging standards and innovations mean

more power and better interoperability for enterprise E-mail.

(Interoperability: Practical Solutions to Complex Notworks appears)

(Interoperability: Practical Solutions to Complex Networks special section) (includes related article on E-mail systems that support the Multipurpose Internet Mail Extensions standard)

Freed, Ned

LAN Magazine, v9, n5, pS29(8)

May, 1994

ISSN: 0898-0012 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT WORD COUNT: 5044 LINE COUNT: 00392

### TEXT:

...is rapidly becoming a fact of networking life. Workstation users are no longer satisfied with **sending** simple, plain-text **messages**. Now they want to send word processing files, spreadsheets, and other data files

... with the appropriate spreadsheets and pie charts, you can format the document as a MIME **message** and **send** it electronically. The graphics files, spreadsheets, text, and even the PostScript formatting all remain intact...

...standalone messages or as individual parts of a multipart message. For example, a user can **send** a video **message** with accompanying audio and a plain text transcript.

Since MIME was designed to be an...an additional image subtype based on the TIFF specification has been developed, enabling users to **send** e-mail **messages** to remote printers, including fax machines.

Another specification for vector graphics is being developed to...

...MIME as a canonical or intermediary format to handle message conversion. In these systems, a message can be received by a MIME e-mail system in any format, converted to MIME message, then reconverted...create graphic messages the composition agent may interface to a graphics terminal. And since the Message Designer is extensible, you can add composition agents to support almost anything--MacPaint, Microsoft Word, Lotus 1-2-3.

When shopping...

... message format compatibility. If you are using Microsoft Mail, for example, and you need to send multimedia messages over the Internet, there is no guarantee the recipient is using the same sort of...

...are forwarded to that registered user. Similarly, incoming Lotus 1-2-3 spreadsheets can be received as MIME messages by the gateway , then converted to Microsoft Excel before they are forwarded.

The enclave concept...

...give everyone free choice with regard to e-mail formats, or you can provide preference templates that limit the selection to specific formats.

If you run the network at a small high-tech company with...for the recipient but also could receive a GIF or TIFF picture as a MIME message as well.

No matter which model you choose when creating your e-mail system, adopting MIME as the messaging format allows...

...read every part of a MIME message. What if you can a PC user who receives a MIME messages consisting of plain text, spreadsheets, audio, and video parts? Unless you have the right hardware...

...MIME headers, users can simply access the header information, then determine which parts of the message they want to receive . This option is particularly valuable for users who access e-mail from multiple locations. For example, if the IMAP server is configured to send multimedia messages to the Sun workstation in your office, but you are accessing e-mail from your...

...their own scripting languages to create specified computational processes that are executed when the mail message is received . Enabled mail brings in the concept of active mail. Traditionally, e-mail, including multimedia mail, has been passive-- messages are received and displayed by the recipient. With active mail, a message can contain a program that...

### 19940500

(Item 6 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01667614 SUPPLIER NUMBER: 15017962 (USE FORMAT 7 OR 9 FOR FULL TEXT) Process messages with SAL. (SQLWindows Application Language for database application development, Structured Query Language for Microsoft Windows) (Client/Server Advisor: Inside SQLWindows) (Column) (Tutorial) Goddard, Doug

Data Based Advisor, v12, n1, p116(3)

Jan, 1994

DOCUMENT TYPE: Tutorial ISSN: 0740-5200 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: LINE COUNT: 00175 2249

on objects for now. An active object is defined, temporarily, as one that has a Message Actions section within its outline template . Passive objects don't process messages , nor do they contain a Message Actions section. Background text fields, group boxes, lines, and...

...and so on.

Besides an active object or class, the application can also process a message . A selection called Application Actions within the Global

Declarations section of the outline defines which messages are... ...of messages sent to it than to a window object. However, you can't programmatically send the application a message like you can to a window object. Even so, the same statement is used to...

...commands that begin executing procedural code to perform the pushbutton's required task.

The first message a SQLWindows application receives is SAM[underscore]AppStartUp. The messages is trapped within the Application Actions section. As the...frmMain, so it's created with the others. When dfHello is created, the first SQLWindows message it receives is SAM[underscore]Create. I trap SAM[underscore]Create, then set dfHello equal to the...

...application or user-defined message. SAM[underscore]User is the entry point for defining new messages , so I add one to it. Now I can trap PAM[underscore] INIT inside an active object or...

# ...INIT, 0, 0 )

When a user presses the Push Me button, the SAM[underscore]Click message it receives forces it to send the PAM[underscore] INIT message to dfHello. dfHello, in turn, sets...

...first parameter to SalSendMessage() is the template name (or window handle), of the window that receives the message. The second parameter is the name (equal to the number) fo the message to send . The third and forth parameters are the wParam and the lParam, the 16- and 32-bit numeric parametes, that may contain additional information about a message .

added a check box to the form and named it Clear. Whether or not the check...

...to turn it on or off.

To implement the check box functionality I change the send code to the following:

On SAM[underscore]Click Call SalSendMsg ( dfHello, PAM[underscore]INIT, cbClear...also responsible for triggering the execution of procedural code blocks. The procedures may, in turn, send their messages to other window objects, or perhaps, create new window objects. The messages sent may be...

# 19940100

26/K/15 (Item 7 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

SUPPLIER NUMBER: 14474854 (USE FORMAT 7 OR 9 FOR FULL TEXT) System software for the '90s. (applications for the Macintosh) (includes related articles on technical developments related to QuickDraw GX, PowerTalk and the Apple Open Collaboration Environment, and AppleScript) Bortman, Henry; Rizzo, John; Somogyi, Stephan MacUser, v9, n12, p105(7)

Dec, 1993

ISSN: 0884-0997 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT WORD COUNT: 3741 LINE COUNT: 00300

# on a network.

New Chooser

Selecting a printer in the GX Chooser creates a desktop icon for that printer. You can select the default printer by clicking on it on the desktop (here the printer Yr LaserWriter...

...appears on your desktop, provides access to your personal In Tray, which contains all the messages you receive . These can include e-mail

messages from LAN services such as QuickMail, dial-in services such as CompuServe or the Internet; fax messages; document files; and even voice-mail messages .

Digital Signature

When sending a message, you can choose to activate a digital signature, a security measure that guarantees to the...

...at the top of document windows, so you can send a document as a mail message . You can add enclosures -- an illustration from the marketing team, for example -- by dragging files from the Finder...

...can create your own layouts too. The AOCE architecture also allows for the design of business -card templates by third-party developers.

Collaborative Catalogs

When you double-click on the Catalogs icon, you...

...server, a QuickMail server, even a CompuServe account. PowerTalk Key Chain, one of three new icons PowerTalk adds to the desktop, contains the list of servers you automatically connect to from the Sign...to ship by the end of the year.

AOCE changes more than the way you send messages , however. With PowerTalk installed, the AppleTalk catalog in the Catalogs window offers much of the ...

## 19931200

#### (Item 8 from file: 275) 26/K/16 DIALOG(R) File 275: Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01597065 SUPPLIER NUMBER: 13720400 (USE FORMAT 7 OR 9 FOR FULL TEXT) Surveying new capabilities of the Microsoft Foundation Class Library version 2.0. (Tutorial)

Shaw, Richard Hale

Microsoft Systems Journal, v8, n6, p41(19)

June, 1993

DOCUMENT TYPE: Tutorial ISSN: 0889-9932 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 13239 LINE COUNT: 01067

list of document templates is maintained by your program's application class object; each document template is automatically added to this list when you create it. Thus, the application class "knows" what type of...

...call CWinApp::OpenDocumentFile. OpenDocumentFile will determine which document template to use based on the file selected , and call the template object's OpenDocumentFile member function -- in an MDI application, this is CMultiDocTemplate::OpenDocumentFile.

CMultiDocTemplate::OpenDocumentFile...from CCmdTarget are capable of handling and routing messages and of creating and maintaining a message map. The messages received by a view are forwarded to it by its associated window. If the view does...last three arguments will be passed as &CMyDoc::classCMyDoc, &CMDIChildWnd::classCMDIChildWnd, and &CMyView::classCMyView.

To add the document template to the list maintained by your application class object, you'll need to call CWinApp...

...function. CWinApp::AddDocTemplate takes a pointer to a CDocTemplate-drived object as a parameter, and adds the document template to the list of document templates maintained by the application. To adapt the code fragment...

...to open, CWinApp::OnFileOpen will call CWinApp::OpenDocumentFile, which figures out what type of document template object is associated with the selected document.

Since you can use AppWizard to automatically generate the code that creates and adds a document template to your application, you don't ordinarily have to be aware of all these details. But Visual C++, AppWizard, and ClassWizard have no means to let you add more than one document template to your application: the only solution is to copy-and-paste an existing piece of...

...how document templates are connected to documents and views is very important.

While the entire business of using document templates, documents, and views may sound rather complex, the fact is that it's far easier...I used the default name supplied by ClassWizard, OnUpdatePhone, and added the function. This process added a message -map member function declaration to CMyDialog's class definition

//{{AFX...

 $\dots$ UPDATE is the <code>message</code> that Windows <code>sends</code> to the parent window of an edit control when the control is about to display...did earlier with a CDialog-derived class.

As a last step, you may want to add a new document template to the application: copy the existing document template from your application's InitInstance function, and...to:

\* Modify the toolbar image provided by Visual C++ \* Modify the buttons array shown above \* Add new message -handling functions for any additional toolbar bitmaps \* Modify the appropriate message map (probably the application...on access by a user. Thus, with my four VCR-like buttons, I needed to add four message handlers to the message map of my frame window class.

BEGIN...This is true for any dialog bar or toolbar interface object. Once I updated the message map, I added a message handler for each button to the frame window class. Thus, the message handler for the...

19930600

33/K/1 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2004 ProQuest Info&Learning. All rts. reserv.

02518032 164387901

Mission statements as corporate communications: The consequences of social constructionism

Hackley, Christopher

Corporate Communications v3n3 PP: 92-98 1998

ISSN: 1356-3289 JRNL CODE: CCMM

WORD COUNT: 4036

...TEXT: head. These are the cognitive structures which are the precondition for consciousness. With this theoretical template, one can talk about communication as a matter of designing messages (such as mission statements) which can be fired across...

... designing mission statements this analysis has direct implications. The theoretical psychological/ideological space between the message encoder and the message decoder is no longer practically functional. The machine metaphor of communication (press the button, fire the message, hit the gives way to a metaphor of shared consciousness between organisations and their publics. This may entail, for example, communicating through the kinds of cultural message -codes which constitute the symbolic world of the intended audience. In advertising, this involves tapping... several forms each of which springs from one coherent strategic vision but which can individually translate into forms of words which constitute meanings for specific publics. The strategic mission made public...

... the social groups being addressed, the one precondition being that they utilised the appropriate cultural message -code.

This approach takes the mission statement concept into an area of psychological theory which...

33/K/2 (Item 2 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2004 ProQuest Info&Learning. All rts. reserv.

01092314 97-41708

Object-oriented parallel computation for plasma simulation Norton, Charles D; Szymanski, Boleslaw K; Decyk, Viktor K Communications of the ACM v38n10 PP: 88-100 Oct 1995 ISSN: 0001-0782 JRNL CODE: ACM

WORD COUNT: 6451

ABSTRACT: It is argued that standard Fortran 90 and C++ with standard message -passing libraries provide an attractive basis for parallel programming. Object-oriented programming methods in high...

... Cell (PIC) simulation skeleton codes. Beginning with the parallel Fortran 77 version, the application is converted into an object-oriented form using the Intel Paragon, IBM SP1/SP2, and Cray T3D...

... practical issues encountered in software development on parallel machines, including programming abstractions, modifiability, portability (across message -passing libraries, machines, and compilers), numerical accuracy, and computational efficiency are examined.

...TEXT: Particle in Cell (PIC) simulation skeleton codes. Beginning with the parallel Fortran 77 version, we convert the application into an object-oriented form using the Intel Paragon, IBM SP1/SP2, and...

... practical issues encountered in software development on parallel machines, including programming abstractions, modifiability, portability (across message -passing libraries, machines, and compilers), numerical accuracy, and computational efficiency.

Overview of Plasma PIC Simulation...in user send/receive calls. The C++ versions do not make data directly accessible to communication routines, often due to template -related issues; hence buffers are required. These buffers collect the transmitted data, which are then...

33/K/3 (Item 1 from file: 16) DIALOG(R) File 16: Gale Group PROMT(R) (c) 2004 The Gale Group. All rts. reserv.

Supplier Number: 57929481 (USE FORMAT 7 FOR FULLTEXT) The Customer Always Clicks Twice.

Michael, Bill

Computer Telephony, v7, n11, p84

Nov, 1999

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

5565 Word Count:

originated from a customer's PC (using NetMeeting or an Internet phone client app) and converts it to PSTN format before handing it over to the ACD and routing to an agent's phone. Similarly...an e-mail response form (which automatically inserts the customer's address and includes a message template ), or a telephone response button that automatically dials the customer's number.

The newest release...

19991101

33/K/4 (Item 2 from file: 16) DIALOG(R) File 16: Gale Group PROMT(R) (c) 2004 The Gale Group. All rts. reserv.

Supplier Number: 46320975 (USE FORMAT 7 FOR FULLTEXT)

Simply an e-mail interface, part 1

InfoWorld, p078 April 22, 1996

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 4715

any SMTP system in place, the Internet is just one router hop away. As a message transport, however, SMTP puts one irritating and surprisingly difficult-to-solve limitation on e-mail data: The message must be ASCII text. If you're just sending a quick text message to someone, SMTP's restriction isn't a problem. For a message that contains more than simple text, it's not difficult to translate a binary file into the ASCII character set. There are lots of utilities to encode...

...part of the problem. How do you know if your recipient can restore an encoded message back to its binary format ?

A TECHNICAL DIGRESSION. A companion standard, MIME, defines what most SMTP messages actually look like...template -- if you don't do it just right, nothing happens, not even an error message . After you select a template, a new message screen is created, based on the correct layout. But again, it would be nice to...

19960422

Mary Cheung

33/K/5 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

03653699 Supplier Number: 45158016 (USE FORMAT 7 FOR FULLTEXT)

EDI Used By UK Ministry Of Defense 11/23/94

Newsbytes, pN/A Nov 23, 1994

Language: English Record Type: Fulltext

Document Type: Newswire; General Trade

Word Count: 363

... generator which allows screens to be development for manually entered information. "The resultant screen intelligently formats the data entered so that it can be translated into the correct EDI message. The EDI report generator is used in a similar manner, allowing the MoD to print received information in a format they can understands," he said.

According to Atlas, this function turns machine readable EDI files...

...met all the requirements set out at the beginning of the project, enabling the required message template and translation facilities to be developed within the planned timescales and budget."

(Steve Gold/19941123/Press Contact...

19941123

33/K/6 (Item 4 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

02959592 Supplier Number: 44007516 (USE FORMAT 7 FOR FULLTEXT)

With Super. TCP and Z-Mail, What's Yours Is MIME

Network Computing, p40

August, 1993

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 2358

... provides a number of advanced features not found in many e-mail applications, including a message template capability that, for example, can simplify phone message and problem reporting; a comprehensive, though not...

...underlying messaging system. Other possible uses range from relatively simple applications, such as foreign mail **conversion** (a sample script to **convert** Unix RAND MH **Message** Handling System mail is included) and vacation notifiers (a sample script for this is included... 19930801

33/K/7 (Item 1 from file: 148)
DIALOG(R) File 148: Gale Group Trade & Industry DB
(c) 2004 The Gale Group. All rts. reserv.

10540825 SUPPLIER NUMBER: 53097225 (USE FORMAT 7 OR 9 FOR FULL TEXT)
An Evidence-Based Approach to Interactive Health Communication: A Challenge to Medicine in the Information Age.

Robinson, Thomas N.; Patrick, Kevin; Eng, Thomas R.; Gustafson, David JAMA, The Journal of the American Medical Association, 1264(1)

Oct 14, 1998

ISSN: 0098-7484 LANGUAGE: English RECORD TYPE: Fulltext; Abstract WORD COUNT: 7533 LINE COUNT: 00660

...ABSTRACT: inaccurate advice or encourage laypersons to avoid

traditional medical care. The Science Panel on Interactive Communication and Health has proposed a template that physicians can use to report IHC products and services.

be adapted to assess IHC.

Proposed Evaluation Reporting Template

The SciPICH proposes an Evaluation Reporting Template for Interactive Health Communication Applications, which is based on the rationale that all applications should undergo some level of... The Internet's challenge to health care provision. BMJ. 1996;312:3-4.

Evaluation Reporting **Template** for Interactive Health **Communication** Applications, Version 1.0, Science Panel on Interactive Communication and Health

I. Description of Application...

...template and other resources on evaluation of HO is available at URL: wwm.scipich.org.

(\*.) Formative evaluation is used to assess the nature of the problem and the needs of the...monitor the administrative, organizational, or other operational characteristics of an intervention. This helps developers successfully translate the design into a functional application and is performed during application development. This commonly includes...

#### 19981014

(Item 2 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

09111072 SUPPLIER NUMBER: 18836193 (USE FORMAT 7 OR 9 FOR FULL TEXT) Personalize mass email messages. (Alpha Software's NetMailer and Arial Marketing Inc's E-Mail Merge Pro 2.0) (Software Review) (Evaluation) Dennis, Kathryn

Marketing Computers, v16, n10, p68(2)

Nov, 1996

DOCUMENT TYPE: Evaluation ISSN: 0895-5697 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 1736 LINE COUNT: 00133

messages with long strings of names in the TO: field. One thing, however, doesn't translate from the printed business letter to that use of email: the personal touch. Certainly, you...

...two programs that make it possible to merge database records with merge fields in email messages . Eventually, this capability will be built into many email and word processing packages. For now...

...easy, too, since you can drag and drop field names as merge fields in your message . The template creator encompasses more than the message . The program lets you put a merge field in the subject field as well. And...

### 19961100

33/K/9 (Item 3 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c)2004 The Gale Group. All rts. reserv.

08612024 SUPPLIER NUMBER: 18217088 (USE FORMAT 7 OR 9 FOR FULL TEXT) Simply an e-mail interface. (comparison of Qualcomm's Eudora Pro 2.0, CommTouch Software's Pronto Mail 2.01, Frontier Technologies' SuperTCP Suite 96 and NCD Software's Z-Mail 4.0) (includes related articles on results and testing methodology) (Software Review) (Evaluation)

Hutton, Bill; Davis, Susan; Smith, Gregory S.

InfoWorld, v18, n17, p78(8)

April 22, 1996

DOCUMENT TYPE: Evaluation ISSN: 0199-6649 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

LINE COUNT: 00714 WORD COUNT: 9204

any SMTP system in place, the Internet is just one router hop away. As a message transport, however, SMTP puts one irritating and surprisingly difficult-to-solve limitation on e-mail data: The message must be ASCII text. If you're just sending a quick text message to someone, SMTP's restriction isn't a problem. For a message that contains more than simple text, it's not difficult to translate a binary file into the ASCII character set. There are lots of utilities to encode...

...part of the problem. How do you know if your recipient can restore an encoded message back to its binary format?

A TECHNICAL DIGRESSION. A companion standard, MIME, defines what most SMTP messages actually look like...template -- if you don't do it just right, nothing happens, not even an error <code>message</code> . After you select a template, a new message screen is created, based on the correct layout. But again, it would be nice to...

#### 19960422

33/K/10 (Item 4 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

07923891 SUPPLIER NUMBER: 17040022 (USE FORMAT 7 OR 9 FOR FULL TEXT) Mail Scout motto: filter e-mail. (Peloria Technology Corp's Mail Scout Rules Server for cc:Mail) (includes related article on test methodology) (Software Review) (Evaluation)

Kramer, Matt

PC Week, v12, n23, p65(2)

June 12, 1995

DOCUMENT TYPE: Evaluation ISSN: 0740-1604 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 1348 LINE COUNT: 00106

form. For example, to create a Schedule rule we entered the date and time the message should be sent, the address of the recipient, and the actual message . Mail Scout converted the parameters chosen in the form to a rules script that ran on the DOS...

...cc:Mail client software. For example, it would have been helpful to take a received message and use it as a template for creating a rule. Mail Scout currently requires users to manually fill in the parameters...

# 19950612

(Item 5 from file: 148) DIALOG(R) File 148: Gale Group Trade & Industry DB (c)2004 The Gale Group. All rts. reserv.

05850900 SUPPLIER NUMBER: 12211999 (USE FORMAT 7 OR 9 FOR FULL TEXT) DataPub. (HB Type & Graphics) (Software Review) (one of five data base publishing software evaluations) (Evaluation)

Poor, Alfred

PC Magazine, v11, n10, p279(2)

May 26, 1992

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH Mary Cheung

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 845 LINE COUNT: 00061

ABSTRACT: HB Type & Graphics' \$95 DataPub is a data **conversion** software that does nothing but turn DBF. files into either a Ventura Publisher text file...

...DataPub is menu-driven. When installing the program, users must decide between dBase or Clipper format indexes. The program automatically creates index fields if users do not select one. DataPub comes...
... not allowed, but the resulting output file is empty. If you try to reopen the template, you will get a message that the template does not match the database. The company plans to fix this flaw in future versions...

## 19920526

# 33/K/12 (Item 6 from file: 148)

DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

04795888 SUPPLIER NUMBER: 08785134 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Applying electronic messaging: electronic messaging could transform

business operations - if correctly planned and introduced.

Houldsworth, Jack

Telecommunications, v24, n8, p55(4)

August, 1990

ISSN: 0278-4831 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2872 LINE COUNT: 00239

... fine tuning of these corporate goals and aspirations, but this plan serves as a simple **template** for creating an evolutionary **message** handling migration plan.

A typical first step is to create a small private **message** handling domain which brings together all the disparate electronic mail services and all the ad...

...as videotex if the traffic levels justify them. If not, the MTA can submit the **messages** to an administration MTA for **conversion** to those services. The common MTA can also be linked to other commercial networks to

# 19900800

# 33/K/13 (Item 7 from file: 148)

DIALOG(R) File 148: Gale Group Trade & Industry DB (c) 2004 The Gale Group. All rts. reserv.

04587653 SUPPLIER NUMBER: 08185976 (USE FORMAT 7 OR 9 FOR FULL TEXT)

The World Bank's open network. (using Systems Network Architecture protocols in a multivendor computer environment)

Steyer, H. Clement, Jr.

Datamation, v36, n4, p109(3)

Feb 15, 1990

ISSN: 1062-8363 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2278 LINE COUNT: 00188

... be made mandatory or optional in the definition.

The definition of data elements, fields and messages are stored centrally in a master reference file. From these definitions, software generates two products that are used to build and interpret messages: a submission template and a construction template. Submission templates are

Mary Cheung

fixed format record definitions that contain all fields for a message, with space for the maximum allowable size for each field. Construction templates are interpretation rules that provide the information needed to convert the fixed data format of the submission template into the freeformat version (suppressing unused optional fields and unneeded zeros), which is actually transmitted and received. The construction rules are also used to parse free- format messages that are received back into the fixed format of submission templates so that a receiving application can easily operate on the data received...

## 19900215

33/K/14 (Item 1 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01966972 SUPPLIER NUMBER: 18564805

Integrity control. (Server Side) (integrity control features in Computer Associates' CA-OpenIngres 1.2, Oracle Server 7.2, Microsoft SQL Server 6.0, Borland InterBase Server 4.0 and Centura Software SQLBase 6.0) (Product Information) (Column)

Rennhackkamp, Martin DBMS, v9, n9, p103(4) August, 1996

DOCUMENT TYPE: Column ISSN: 1041-5173 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3466 LINE COUNT: 00273

function in the listing truncates the date to the year. Date extraction and data type conversion functions are dependent on implementation--they are not specified in the ANSI SQL-92 standard. Note that I would like (read: "require") a DBA-specified message for every constraint and for every domain definition, similar to the messages I described in last month's column on referential-integrity constraints (See DBMS, July 1996, page 74). Alas, such a message is not possible using the ANSI SQL-92 standard syntax.

The material in this section...messages returned by these constraints. However, if you are brave, you can change the error message that is stored in the sysmessages table in the master database, or you can

...altermessage to change the template message text. Microsoft SQL Server supports column constraints using the ANSI SQL-92 syntax shown in...

# 19960800

(Item 2 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01804827 SUPPLIER NUMBER: 17155740 (USE FORMAT 7 OR 9 FOR FULL TEXT) Tools and utilities. (1995 Database Buyer's Guide and client/server sourcebook) (Buyers Guide)

DBMS, v8, n6, p72(29)

May 15, 1995

DOCUMENT TYPE: Buyers Guide ISSN: 1041-5173 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

45154 WORD COUNT: LINE COUNT: 03869

for navigational control and security at the application level. Features include stored procedure support, intersheet communication,

object-oriented class library, application template, tab-control object, window ancestor hierarchy, DataWindow ancestor, hierarchy, naming conventions, and table-driven navigation...378-7528

A OUI-based end-user data access, query, and reporting tool. Used to convert queries and report formats between the mainframe and the PC, thus providing PC/LAN users with mainframe data and...

...Offers a decision-support system that gives users ad hoc querying, analysis, charting, and data- conversion facilities. Shields novice users from SQL and provides performance and functionality to database professionals. Optimizes...

... No need to set up or maintain a separate data dictionary. Executives and managers can convert the query data to The SAS System, Excel, Lotus 1-2-3, dBASE, WordPerfect mail merge, delimited, and other formats . Databases supported via their native APIs include DB2 Family, Informix, Ingres, Microsoft SQL Server, Oracle...2.5

Rory Data International, North Potomac, MD 301-330-5118

A DOS utility that converts report format (.frx) files designed with FoxPro's built-in report writer into customizable program (.prg) files

#### 19950515

```
(Item 3 from file: 275)
33/K/16
DIALOG(R) File 275: Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.
```

01794107 SUPPLIER NUMBER: 16978967 (USE FORMAT 7 OR 9 FOR FULL TEXT) Meandering through the maze of MFC message and command routing. (Microsoft Foundation Class) (Tutorial)

DiLascia, Paul Microsoft Systems Journal, v10, n7, p17(18) July, 1995

DOCUMENT TYPE: Tutorial ISSN: 0889-9932 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 11504 LINE COUNT: 00938

Get a message. 2. Process it.

Simple, right? The first involves not only getting the <code>message</code> , but also possibly translating it. As for step two, MFC devotes so much effort to processing WM-COMNWD messages that it makes sense to consider commands separately from other Windows messages . MFC also adds a ...while (GetMessage(&msg, NULL, 0, 0)) {

TranslateMessage(&msg); DispatchMessage(&msg); // send to window proc

This message pump is the heart of every Windows-based program. MSG is a struct that holds the HWND, message ID, WPARAM, and LPARAM, plus a couple of other things. You get one, then dispatch...

...in the middle--what's that? Oh, never mind, it's just a function to translate WM...

...KEYUP messages into WM...

...to do accelerators. TranslateAccelerator sees Ctrl-X go by, looks in your accelerator table, and translates it into a WM...

... COMMAND message with ID of ID...

...just like the user picked Edit Cut from the menu. TranslateMessage

returns TRUE indicating the message was translated and dispatched, so you know not to dispatch it again.

Windows has all sorts of voodoo functions to **translate messages**: you don't really understand the rhyme or reason, you just do what they tell ...shoulder to fix your kidneys.

MFC corrects this situation by letting windows do their own message translation. In MFC, the dialog, not WinMain, calls IsDialogMessage. How does it work? To understand, let's start with MFC's version of the message pump. It starts in CWinApp::Run.

```
int CWinApp::Run()
{
    .
    .
    for (;;) {
        while (!::PeekMessage(&m...)
...idle work to do:
        // pump it
        if (!PumpMessage())
        break:
        {
        return Exitinstance();
        }
        If there are no messages
```

If there are no **messages** waiting, MFC calls OnIdle, which you can override to do something useful like calculate twin...

...OnIdle at the end or you'll be in deep doodoo. If there are no messages , or no more idle work to do, CWinApp calls PumpMessage, which does the Get/ Translate /Dispatch schtick, just like in the old days:

```
BOOL CWinApp::PumpMessage()
{ .
:
if (!::GetMessage(&m msgCur...
```

...That's right, there's PreTranslateMessage for CWinApp and PreTranslateMessage for CWnd. Now windows can **translate messages**. When one does, it returns TRUE all the way up the stack. **Message** received. Next, please. The flow is illustrated in Figure 2.

It may make your head...

```
...hWnd, pMsg):
return FALSE:
```

It makes a lot more sense to translate dialog messages in the dialog class instead of CWinApp, don't you think? CWinApp doesn't know...

...doesn't get called for modal dialogs because when you call DoModal, Windows starts another **message** loop and control doesn't return until the dialog is over. But the really wonderful...migrated to CWinThread, from which CWinApp is now derived.

One Framework, One Window Proc

Most messages are never translated. PreTranslateMessage returns FALSE all the way up the line and CWinApp::PumpMessage calls::DispatchMessage, which is a kind of Windows wormhole. Your message disappears inside, then magically reappears in your window procedure (see Figure 4).

You know the...case you hadn't noticed, I've covered the first two elephant chunks: getting/translating messages and processing them. There's just one more piece left to digest, user interface objects. Once... thinks CApp is derived from CWinApp even though TrCmdTarget<WinApp> sits between. Likewise, the message map base pointers skip the template classes. So, for example, the base class message map pointer for CFileView points to CView's...

 $\ldots$  s the only one from Microsoft that supports templates.

Figure 3 MFC Message Routing

Message Translation

Function

CWinApp::PreTranslateMessage

CWinThread::PreTranslateMessage (32 bit MFC) Purpose

Translate accelerator keys. MFC Implementation(s)

CWinthread...

...and its parents, plus the

main frame. This lets each window implement its own message translation. If any window handles the message, it returns TRUE and routing stops. When to override Rarely to never. Use if you have...

#### 19950700

# 33/K/17 (Item 4 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01712996 SUPPLIER NUMBER: 16289479 (USE FORMAT 7 OR 9 FOR FULL TEXT)

EDI used by UK Ministry of Defense.

Gold, Steve

Newsbytes, NEW11230023

Nov 23, 1994

LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 397 LINE COUNT: 00031

... generator which allows screens to be development for manually entered information. "The resultant screen intelligently formats the data entered so that it can be translated into the correct EDI message. The EDI report generator is used in a similar manner, allowing the MoD to print received information in a format they can understands," he said.

According to Atlas, this function turns machine readable EDI files...

...met all the requirements set out at the beginning of the project, enabling the required message template and translation facilities to be developed within the planned timescales and budget."

(Steve Gold/19941123/Press Contact...

### 19941123

# 33/K/18 (Item 5 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01703174 SUPPLIER NUMBER: 16236844 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Wider platform for the workgroup. (Groupware) (Wordperfect/Novell's Symmetry 4.1 workgroup software) (includes related article on telephone access for Symmetry) (Software Review) (Evaluation)

Wright, Tim

PC User, n239, p54(2)

July 13, 1994

DOCUMENT TYPE: Evaluation ISSN: 0263-5720nternational ISSN: 0263-5720

LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2976 LINE COUNT: 00233

... spreadsheet, for example, you can invoke a Mail command and immediately pull up an Symmetry **message template**, ready to send your spreadsheet file as an attachment to anyone on the system.

Support...the user how many messages are waiting.

The user can then choose to play new messages , delete messages or send messages to other users. Messages are converted to audio output for the user to review the contents of each message . You can then fax a message to the nearest fax machine simply by entering a fax number using the keypad. Messages can be searched for and printed out using the same

TAS uses the Office...

## 19940713

33/K/19 (Item 6 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

SUPPLIER NUMBER: 15041286 (USE FORMAT 7 OR 9 FOR FULL TEXT) LAN e-mail packages. (local area network) (PC User NSTL Lab Test) (Software Review) (includes related articles on National Testing Software Laboratories' testing facilities and the recommended packages) (Evaluation)

PC User, n224, p116(14)

Dec 1, 1993

DOCUMENT TYPE: Evaluation ISSN: 0263-5720 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

7978 LINE COUNT: 00660 WORD COUNT:

e-mail systems. The gateways connecting the LAN e-mail system to the host-based message system should provide more than just basic ASCII translation and maintain the integrity of complex documents as they pass through the backbone.

Installation and...windows can be tiled or cascaded. The template feature lets users save a frequently used message as a template for future use. Testers were unable to find a way to customise the icon bar...

# 19931201

(Item 7 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

01591645 SUPPLIER NUMBER: 13667549 (USE FORMAT 7 OR 9 FOR FULL TEXT) The Q+E connection: how the Q+E Database Editor serves as a communications hub between applications and between users. (Pioneer Software's Q+E Database Editor SQL front end) (Tutorial)

Wales, Charlotte W. DBMS, v6, n4, p62(5)

April, 1993

DOCUMENT TYPE: Tutorial ISSN: 1041-5173 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3299 LINE COUNT: 00246

the database with this information and then invokes Word with the name of the relevant message template. Each type of message has its own template and an associated autoloading WordBasic macro that invokes the Q+E Database Editor to access...As illustrated in the raw query window shown in Figure 2, Q+E does not translate all of the Excel formats correctly. Cells formatted as dollars in Excel are treated like Date fields in Q+E. If the column...

... character data type to the column but displays the monetary figure in a skewed date format . Again, redefining these mistranslated fields as Money fixes the problem. In general, if a column...

#### 19930400

(Item 8 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

(USE FORMAT 7 OR 9 FOR FULL TEXT) 01459319 SUPPLIER NUMBER: 11481461 Using Pathworks with System 7. (DEC's network software) (The Mac Connection) Cini, Al

DEC Professional, v10, n10, p92(3)

Oct, 1991

ISSN: 0744-9216 RECORD TYPE: FULLTEXT; ABSTRACT LANGUAGE: ENGLISH

WORD COUNT: 1345 LINE COUNT: 00102

off' a copy of the original file. Using the Pathworks Mail for Macintosh application, a template message file can be saved to disk, then converted to a stationery pad to provide a limitless supply of preaddressed electronic mail messages .

Making it Work

Now that you're an fired up about System 7, how do...

#### 19911000

#### 33/K/22 (Item 9 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB (TM) (c) 2004 The Gale Group. All rts. reserv.

01455364 SUPPLIER NUMBER: 11411733 (USE FORMAT 7 OR 9 FOR FULL TEXT) Architectures for 32-bit Windows applications. (Microsoft Windows 3.0 graphical user interface) (Technical article) (tutorial)

Oney, Walter

TECH Specialist, v2, n10, p5(10)

Oct, 1991

DOCUMENT TYPE: tutorial ISSN: 1049-913X LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3882 LINE COUNT: 00299

- process the call, Windows creates a dialog window with whatever controls and other parts the template describes, and it operates a message loop for that window until your dialog function dismisses the dialog by calling EndDialog(). DialogBox...function call which is usually a 32-bit integer) as a far pointer.
- \* Some control messages (for example, EM GETLINE) also use lParam as a pointer. You cannot spot these in a generic way because the message identifier is WM...

... USER plus a small integer and is the same as message numbers for other controls that do not require translation .

There are many more problems like these, some of which you can only discover by...

# 19911000

#### 33/K/23 (Item 10 from file: 275)

DIALOG(R) File 275: Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

SUPPLIER NUMBER: 09390890 (USE FORMAT 7 OR 9 FOR FULL TEXT) Centrex CPE buyers' guide. (customer premises equipment) (buyers guide) Teleconnect, v8, n12, p88(14)

Dec, 1990

LANGUAGE: ENGLISH

ISSN: 0740-9354

DOCUMENT TYPE: buyers quide RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 7589 LINE COUNT: 00602

page listing pager numbers and voice box extensions, and a ready-to-be-filled out message template with cursor poised and in position. The system can deliver messages to mini-printers, PCs...Banks (ICBS) from Newbridge (Herndon, VA) provide T-1 access to Centrex service. The units convert up to 24 analog voice lines to a digital format compatible with standard T-1 local loops, terminating on an integral CSU (channel service unit...without the need for an additional applications processor at the CO. Call records are then converted into standard format data files. ne system ranges from \$5,000 to \$18,500 for ISDN recording.

Earthnet...

#### 19901200

33/K/24 (Item 11 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

SUPPLIER NUMBER: 09423407 (USE FORMAT 7 OR 9 FOR FULL TEXT) Where the quick meets the easy. (Lattice Inc.'s dBC III Plus, Sequiter Software Inc.'s Code Base 4 and Copia International's AccSys for dBASE) (Software Review) (dBASE-compatible file managers) (evaluation) Craigie, Russell

EXE, v5, n3, p18(4)

August, 1990

DOCUMENT TYPE: evaluation ISSN: 0268-6872 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2764 LINE COUNT: 00209

- database, index and memo files. The library supports both the DBASE NDX and Clipper NTX formats for index files; there is no support for dBASE IV's multiple index files. Records...
- ...two distinct sets of functions for accessing memo files. The first supports the memo file format used by DBASE 111, DBASE Ill + and Clipper, the second is compatible with the memo file format used by DBASE IV. Both provide the same functionality. The key difference between them is...
- ...space when writing memo file information. There is also a call that allows you to convert dBASE III memo files into DBASE IV format . Memos may contain up to 32,767 characters.

CB4 also provides a memo edit routine...

...set of pre- and post-modifier routines allow you to specify the attributes, associate a message and define a template for an area. Finally, CB4 also supports pop-up, pulldown, vertical, horizontal and Lotus style...

# 19900800

33/K/25 (Item 12 from file: 275) DIALOG(R) File 275: Gale Group Computer DB(TM) (c) 2004 The Gale Group. All rts. reserv.

(USE FORMAT 7 OR 9 FOR FULL TEXT) SUPPLIER NUMBER: 08311878 Smalltalk as a programming environment. (contains a related article on Smalltalk objects) Suydam, Bill

Computer Language, v7, n4, p34(5)

April, 1990

ISSN: 0749-2839 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2789 LINE COUNT: 00221

... class Date, for example, so it returns a string representing a date in a specific **format**, say 900421 for April 21, 1990. You can subsequently **convert** any date to a string of the desired **format** by sending it a **message** telling it to execute the appropriate method.

Remembering objects

Objects and their properties are easier...menu, a code template appears in the source-code text pane. We would define the **message** syntax by overwriting the **template** with the words openOn: aPhonebook. This shows us that when using the method openOn: with...

## 19900400

33/K/26 (Item 1 from file: 9)

DIALOG(R)File 9:Business & Industry(R) (c) 2004 The Gale Group. All rts. reserv.

1469089 Supplier Number: 01469089 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Digital options put regular PPV into a tailspin

(Cable operators are not launching PPV services en masse; instead are expanding analog channels)

Video Business, p 52+

April 19, 1996

DOCUMENT TYPE: Journal ISSN: 0279-571X (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 1410

(USE FORMAT 7 OR 9 FOR FULLTEXT)

# ABSTRACT:

...instead, are expanding analog channels until digital compression and a new generation of set-top converters open up a multitude of channel capacity. However, no one knows when that will be...

...mil homes by early next century. Cable operators believe that more convenient and effective scheduling **formats** will be necessary in the near future to be able to compete with the growing...

# TEXT:

...buy-rates by offering \$2.99 movies every 30 minutes in a 50- to 60-channel environment. That's the template of a successful PPV operation, these executives argue.

"We feel DirecTv has socialized PPV in...

33/K/27 (Item 1 from file: 636)

DIALOG(R) File 636: Gale Group Newsletter DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

03289834 Supplier Number: 46759585 (USE FORMAT 7 FOR FULLTEXT)

KODAK: 'Snap it and see' with Kodak's new DC25 digital camera

M2 Presswire, pN/A

Oct 1, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1005

... mail pictures and text in a picture postcard template. After

placing the picture in the template, users can add text messages. When complete, a click on a mailbox icon sends the picture postcard as e-mail...

...the PC range.

- FlashPix Kodak plans a DC25 software upgrade that will enable users to convert pictures to the new FlashPix image file format.

An open standard for digital imaging, the new image file format uses  ${\tt Microsoft's\ OLE...}$ 

19961001

# 33/K/28 (Item 2 from file: 636)

DIALOG(R) File 636: Gale Group Newsletter DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01454406 Supplier Number: 41965380 (USE FORMAT 7 FOR FULLTEXT)

# Software review

EDI in Finance, pN/A

April, 1991

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1046

- ... C is marketed as a Multi-network EDI Gateway. It does in fact provide the **translation** and network command (for the three main UK VANs plus the GDN) functionalities referred to...
- ...a small extra charge. (How small? See below.) However, it will automatically batch up all messages for users on different networks (as described in your preset user profiles) and connect to...
- ...and documentation, one VAN connection module (IBM, INS, AT&T ISTEL or GDN) and one **message** table alias **template**. Unix and Xenix PC versions cost GBP 2000 on the same basis, while a Unix...

  19910401

# 33/K/29 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

04274403 INSPEC Abstract Number: B9212-6210G-004, C9212-6155-005

Title: Pilot Mail: a group oriented E-mail based on management of speaking and acting

Author(s): Ichimura, S.; Matsushita, Y.

Author Affiliation: Dept. of Instrumentation Eng., Keio Univ., Tokyo, Japan

Journal: Transactions of the Information Processing Society of Japan vol.33, no.7 p.955-63

Publication Date: 1992 Country of Publication: Japan

CODEN: JSGRD5 ISSN: 0387-5806

Language: Japanese

Subfile: B C

Abstract: Describes the speech act theory; the default template; a modified template; template evaluation; a message sent through electronic mail; a template for initiating a conversion; the conversation manager; and a template for forwarding image data.

```
?show files
File 15:ABI/Inform(R) 1971-2004/Sep 01
         (c) 2004 ProQuest Info&Learning
      16:Gale Group PROMT(R) 1990-2004/Sep 01
File
         (c) 2004 The Gale Group
File 148: Gale Group Trade & Industry DB 1976-2004/Sep 01
         (c) 2004 The Gale Group
File 160: Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 275: Gale Group Computer DB(TM) 1983-2004/Sep 01
         (c) 2004 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Sep 01
         (c) 2004 The Gale Group
File
       9:Business & Industry(R) Jul/1994-2004/Aug 31
         (c) 2004 The Gale Group
File
      20:Dialog Global Reporter 1997-2004/Sep 01
         (c) 2004 The Dialog Corp.
File 476: Financial Times Fulltext 1982-2004/Sep 01
         (c) 2004 Financial Times Ltd
File 610: Business Wire 1999-2004/Sep 01
         (c) 2004 Business Wire.
File 613:PR Newswire 1999-2004/Sep 01
         (c) 2004 PR Newswire Association Inc
File 624:McGraw-Hill Publications 1985-2004/Aug 31
         (c) 2004 McGraw-Hill Co. Inc
File 634:San Jose Mercury Jun 1985-2004/Aug 31
         (c) 2004 San Jose Mercury News
File 636: Gale Group Newsletter DB(TM) 1987-2004/Sep 01
         (c) 2004 The Gale Group
File 810: Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File
       2:INSPEC 1969-2004/Aug W4
         (c) 2004 Institution of Electrical Engineers
File
     35:Dissertation Abs Online 1861-2004/Jul
         (c) 2004 ProQuest Info&Learning
File
     65:Inside Conferences 1993-2004/Aug W5
         (c) 2004 BLDSC all rts. reserv.
      99:Wilson Appl. Sci & Tech Abs 1983-2004/Jul
         (c) 2004 The HW Wilson Co.
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File 256:TecInfoSource 82-2004/Jul
         (c) 2004 Info. Sources Inc
File 474: New York Times Abs 1969-2004/Aug 31
         (c) 2004 The New York Times
File 475:Wall Street Journal Abs 1973-2004/Aug 31
         (c) 2004 The New York Times
File 583: Gale Group Globalbase (TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
?ds
Set
        Items
                Description
S1
      6417562
                TEMPLATE? ? OR MODEL? ?
S2
      2519093
                MESSAG???
S3
     42062619
                BUSINESS
S4
     13024308
                FINANCIAL
S5
       585443
                S1 (5N) (S2 OR S3 OR S4)
S6
     13555765
                ADD???
s7
      6299899
                SELECT???
S8
      2633099
                ICON? ? OR TEMPLATE? ? OR MESSAGE? ?
S9
        38716
                S6 (5N) S8
```

S10

26919

S7 (5N) S8

```
S5 AND S9 AND S10
S11
         144
      9976202
S12
                RECEIV???
S13
                INBOUND???
      101243
S14
      2502422
                SEND???
S15
      103910
                OUTBOUND???
      3503204
                MESSAG??? OR EMAIL? ?
S16
                (S12 OR S13) AND (S14 OR S15)
s17
       781348
S18
     10046596
                S12 OR S13
S19
      2591720
                S14 OR S15
                S18 (3N) S16
S20
      148408
S21
       355735
                S19 (3N) S16
       42896
S22
                S20 AND S21
S23
           22
                S11 AND S22
S24
           17
                RD (unique items)
S25 55361128
                PY<2000
(S2)
          16
                S24 AND S25
          919
                (CHANNEL??? OR COMMUNICATION OR MESSAGE? ?) (5N) TEMPLATE
S28
      3544367
                TRANSLAT??? OR CONVERT??? OR CONVERSION
S29
      187188
                S28 (S) (FORMAT???? OR MESSAGE? ?)
S30
          47
                S27 AND S29
S31
           35
                S30 AND S25
                S31 NOT S26
           34
           29
                RD (unique items)
```